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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/664,324	09/17/2003	Christopher A. Kinser	GP-302282	4208
7590 05/12/2004			EXAMINER	
CHRISTOPHER DEVRIES General Motors Corporation Legal Staff, Mail Code 482-C23-B21 P.O. Box 300 Detroit, MI 48265-3000			KRAMER, DEVON C	
			ART UNIT	PAPER NUMBER
			3683	
DATE MAILED: 05/12/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/664,324

Applicant(s)

KINSER ET AL.

Examiner

Devon C. Kramer

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 September 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Drawings

1) The drawings are objected to under 37 CFR 1.83(a) because they fail to show the system 100 as described in the specification. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Objections

2) Claim 31 is objected to because of the following informalities:

Claim 31 line 12 cites "the graded surface", which should be --a graded surface--.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3) The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4) Claims 2-5, 10, 12, 15 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 2-5, 10, 12 and 15 describe determining steps, but fail to cite where the determining steps fit into the method. For example, claim 2 should have a statement, "and then further determining" or "if the hold torque is supplied for the time period then the brakes are applied". These claims should all provide some statement as above.

Claim Rejections - 35 USC § 102

5) The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6) Claims 1-4, 6-10, 13-15, 18-20, 22-24, 26, 28 and 31 are rejected under 35 U.S.C. 102(e) as being anticipated by Kuno et al (2004/0012250).

In re claims 1 and 18, Kuno et al teaches a vehicle having a powertrain system (abstract) and a brake system (8), a method of maintaining a vehicle at a substantially zero speed on a graded surface (abstract), the method comprising: determining that the powertrain system is supplying a hold torque, the hold torque having a magnitude sufficient to substantially maintain the vehicle at a substantially zero speed on the graded surface; and automatically applying a brake torque from the vehicle brake system at a magnitude at least equivalent to the hold torque to thereby maintain the vehicle at the substantially zero speed (abstract). Please note that the brake torque applied has to be at least equal to the hold torque in order to maintain the vehicle in the stopped state. If the brake torque were less than the torque applied by the powertrain, the vehicle would roll.

In re claims 2 and 19, see abstract.

In re claims 3 and 20, see paragraph 25 and paragraph 6.

In re claim 4, see paragraph 38.

In re claim 6, see abstract.

IN re claims 7, 14 and 22, Kuno et al provides the brake torque increase to the hold torque at a first rate, and the torque supplied from the powertrain being reduced at a second rate. Please note that applicant does not claim that the first rate being different from the second rate.

In re claims 8, 23-24 and 26, see abstract.

In re claim 9, see abstract. Please note that the movement torque has to be greater than the hold torque in order to overcome the potential energy and frictional forces to move the vehicle.

IN re claim 10, see paragraph 45.

IN re claim 13, please note that in order for the system of Kuno et al to work the powertrain must be working in a direction opposite to gravity.

IN re claims 15 and 28, it is determined if the vehicle has zero speed (step 203) and if the grade has a predetermined magnitude. Please note that applicant does not claim a specific magnitude, but Kuno et al must have some grade sensor that registers at a certain magnitude.

In re claim 31, see rejections of claims 1 and 7.

Claim Rejections - 35 USC § 103

7) The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8) Claims 5 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuno et al (2004/0012250) in view of Atkinson (6000488).

In re claims 5 and 21, Kuno et al lacks the teaching of determining that the electric motor is being supplied with a current having a magnitude equivalent to a stall current for a predetermined time.

Atkinson teaches a method where it is judged if an electric motor has been drawing a stall current for a predetermined amount of time and applying the brakes.
(Col. 25 lines 18-23)

It would have been obvious to one of ordinary skill in the art at the time of the invention to have provided the powertrain system of Kuno et al with an arrangement for sensing the stall current applied to the motor in order to protect the motor from overheating.

9) Claims 11-12 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuno et al (2004/0012250).

In re claims 11 and 25, Kuno et al lacks the specific teaching of determining the driver has requested a roll torque when the magnitude is less than the hold torque.

It would have been obvious to one of ordinary skill in the art at the time of the invention to have provided the release of the brakes when the driver supplies a roll torque that is an amount less than the hold torque in order to prevent a jerking motion or damage to the transmission due to the powertrain working against the brakes and further since it has been held that discovering an optimum value of a result effective variable, specifically the precise time at which the brakes are released, involves only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980)

In re claim 12, see paragraph 45.

10) Claims 16-17 and 29-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuno et al (2004/0012250) in view of Messersmith (4666021).

Kuno et al lacks the teaching of an indicator light.

Messersmith teaches the use of an indicator light. (Col. 7 lines 10-15)

It would have been obvious to one of ordinary skill in the art at the time of the invention to have provided the system of Kuno with indicator lights merely to inform the driver that the system is activated and to prevent over or under compensation by a driver when stopped on a hill.

11) Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kuno et al (2004/0012250) in view of Eguchi et al (6336689).

Kuno et al lacks the teaching of releasing the brakes when an operator shifts the transmission.

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Eguchi et al teaches releasing the brakes when the transmission is shifted.

It would have been obvious to one of ordinary skill in the art at the time of the invention to have provided the system of Kuno et al to release the brakes upon shifting of the transmission in order to reduce strain on the transmission and allow the driver to maneuver the vehicle uninhibited.

Conclusion

12) The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Shaw et al teaches applying brakes when a stalling current is sensed. Crombez, Kuang et al, and Siepker all provide brake systems with a hill hold function.

13) Any inquiry concerning this communication or earlier communications from the examiner should be directed to Devon C Kramer whose telephone number is 703-305-0839. The examiner can normally be reached on Mon-Fri 8-4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Lavinder can be reached on 703-308-3421. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DK

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